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THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
of the
TOWNSHIP OF GEORGINA
COUNTY OF YORK

1966

TOWNSHIP OF GEORGINA - 1966
COUNTY OF YORK

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Report on a water pollution
survey of the township of
Georgina, county of York.

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REPORT

on a

WATER POLLUTION SURVEY

of the

TOWNSHIP OF GEORGINA

County of York

1966

Division of Sanitary Engineering

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THE ONTARIO WATER RESOURCES COMMISSION

REPORT

I INTRODUCTION

A water pollution survey was made of the Township of Georgina on October 20, 1965. The purpose of the survey was to locate and record all significant sources of water impairment within the township. Surveys of this nature are conducted routinely and upon request throughout the Province of Ontario by the Ontario Water Resources Commission as a basis for evaluating any existing or potential sources of pollution.

Recommendations are made pertaining to water pollution abatement and the Commission expects that corrective measures will be taken by those concerned.

II GENERAL

The Township of Georgina with a population of 2,462 is located in the north-east part of York County. The township remains mainly rural with some subdivision-type development.

The northern boundary of the township fronts on Lake Simcoe. Summer cottage development is quite extensive along the shoreline.

Georgina Island an Indian Reserve, owned by the Georgina Band is not considered in this survey which relates entirely to the mainland.

III DRAINAGE AND SOIL CONDITIONS

Drainage for the township is provided by Lake Simcoe, Pefferlaw Brook, Black River and tributaries of these watercourses.

Much of the top soil in the Township of Georgina consists of muck and till although there are extensive areas of clay loam, sandy loam and loam.

IV WATER USE

(1) Water Supply

There is no municipal water supply for the township residents. The individual is responsible for obtaining his own water supply. For the main part the individual obtains water from wells of the dug and drilled type. Reportedly the quantity and quality of these wells are adequate.

The cottages located along the shoreline of Lake Simcoe in the township probably utilize it as a source of supply. The individual should be aware that when water is taken from a surface supply for potable purposes, the Commission recommends that a minimum treatment of chlorination be applied for disinfection purposes.

(2) Waste Water Disposal

The Township of Georgina does not have a water pollution control plant. Reportedly the township residents depend mainly on septic tank and subsurface tile field systems to dispose of wastewater.

The type of top soil predominating in the township is not particularly adaptable to the absorption of sewage. Tiles laid in clayey soil are apt to give problems resulting in ponding of sewage and blockages of flow caused by insufficient seepage in the bed. The York County Health officials were interviewed regarding this problem and they reported that no complaints of this nature had been received.

It is the responsibility of the individual to insure that his private sewage disposal system is operating properly and that a water impairment or public health problem is not caused by it malfunctioning.

(3) Private Water Works

There are two private water works systems in the township that this Commission inspects routinely.

(a) Briar's Inn and County Club

Water is obtained from Lake Simcoe, chlorinated and pumped to the distribution system. This privately owned and operated water works serves the inn, which could have a total population in excess of 100 persons, plus approximately 50 summer houses.

This water works has been renovated. These changes to the systems will be reviewed at the time of the next OWRC inspection.

(b) Corner's Park Water Works

The Corner's Park Subdivision is located on the south-east shore of the lake. The water supply is obtained from the lake and is distributed to approximately 30 cottages through one 4-inch

diameter plastic pipe.

Bacteriological examination of the samples collected from this supply indicate that the water is of doubtful quality. A minimum treatment of chlorination should be applied to the water for disinfection purposes.

Inspections at this water works have revealed a reluctance on the part of the residents to assume responsibility for the operation of this water works. The distribution of bacteriologically unsafe water represents a dangerous threat to the health of the residents. The cottagers should organize to effect responsible operation of the water works and the institution of disinfection procedures.

If the private ownership and operation of this water works continues to be unsatisfactory, the municipal authorities should consider assuming responsibility for it.

(4) Recreational

Considerable recreational use is made of Lake Simcoe and to a minor extent the Pefferlaw and Black rivers. With the increasing popularity of ice-fishing and other winter sports this use is becoming year-round.

To adequately protect the excellent recreational advantages of these watercourses, it will be necessary to maintain strict surveillance of developments within the township. This can be accomplished in the form of a water impairment prevention programme.

V REFUSE DISPOSAL

There are two refuse disposal areas in the Township of Georgina. One is privately owned and operated while the other is the responsibility of the township.

Mr.A. Chapelle uses a gravel pit as a refuse disposal site on part of Lot No. 1 Concession II. The Town of Sutton disposes of municipal refuse at this site. The pit is in a broad lacustrine sand plain.

Due to the fact that the nearest watercourse is approximately 0.25 miles distant from the disposal area there would seem to be little possibility of pollution of surface waters from this source. Similarly there is apt to be no effect on the ground water because of the extensive zone of aeration that exists below the surface of the pit bottom.

* The Township of Georgina utilizes part of Lot No. 17, Concession IV as an area for the disposal of municipal refuse. Sections of the township are provided with a garbage collection service while the remainder of the township residents are responsible for conveying their refuse to the site. This dump is so located that there does not appear to be a possibility of pollution of either ground or surface waters.

VI QUALITY OF SURFACE WATERS

The Black River, Pefferlaw Brook and Lake Simcoe all exhibit for the most part satisfactory bacteriological and chemical

quality. Of the samples collected in 1965, only one obtained from Lake Simcoe at Mossington Park revealed a coliform density to suggest that the water was of doubtful quality.

Therefore it can be concluded that the quality of the surface waters in the Township of Georgina is satisfactory.

VII CONCLUSIONS

Impairment of surface waters is not a serious problem at this stage in the township's development. However, to maintain the satisfactory quality of the waters, municipal authorities should keep pace with future development by planning for water pollution control facilities.

Since the residents of the township rely on private individual sewage disposal systems a large responsibility rests with the individual to insure that his system is operating properly. Water impairment will result if these systems malfunction resulting in inadequately treated wastes being discharged to the surface waters.

In addition the individual obtaining his water for potable purposes from a surface-water source should provide a minimum treatment of chlorination for disinfection purposes.

VIII SUMMARY AND RECOMMENDATIONS

A water pollution survey was made of the Township of Georgina on October 20, 1965. There are no municipal communal water works or sewage disposal systems in the township.

There are two private water works, namely, Briar's Golf and Country Club and Corner's Park. The golf club's system has been renovated and these changes will be assessed at the time of the next OWRC inspection. The Corner's Park water works requires supervision and the immediate installation of chlorination facilities.

Extensive use is made of Lake Simcoe, Pefferlaw Brook and Black River for recreational purposes. Since satisfactory water quality is a pre-requisite of this use every effort should be made to maintain the quality of these waters.

The municipality operates a refuse disposal site on Lot No. 17, Concession IV. In addition refuse from the Village of Sutton is disposed of at a private location on Lot No. 1, Concession II. These sites apparently do not present a water pollution problem.

RECOMMENDATIONS

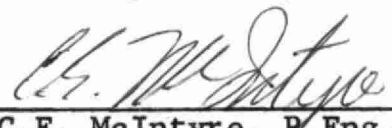
1. The municipality should institute a water pollution prevention programme designed to keep pace with development as it occurs in the township.

2. The Corner's Park water works should provide supervision of the system and implement chlorination practices forthwith.

All of which is respectfully submitted,

/ elb

Approved by


C.E. McIntyre, P.Eng.,
District Engineer,
Div. of Sanitary Engineering.

Prepared by: D.A.M. Wilson,
Engineer's Assistant.

TABLE I

ANALYTICAL RESULTS OF BLACK RIVER SAMPLES

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Solids Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ml</u>
BR-0.0	Mouth of Black R. at Lake Simcoe.	July 28/61	1.4	276	-	-	2.0	300
		Sept. 19/62	3.8	174	-	-	4.5	150
		May 30/63	2.5	312	-	-	3.1	330
		Nov. 16/64	1.5	238	1	237	-	2,000
BR-1.6	Black R. at Con- cession Rd. #7- Twp. of Georgina just downstream from Sutton.	July 28/61	1.8	280	-	-	2	1,170
		Sept. 19/62	2.7	186	-	-	4.5	25,000
		May 30/63	2.2	292	-	-	3.1	1,270
		Nov. 16/64	1.1	250	2	248	-	104
BR2-7.6	Zephr Cr. at road allowance between Concessions 2 & 3.	July 28/61	1.1	382	-	-	1	122
		Sept. 19/62	3.1	260	-	-	3.8	34
		May 30/63	2.3	296	-	-	1.8	800
		Nov. 16/64	1.1	262	1	261	-	40
BR-10.4	Black R. at Georgina-Scott Town Line east of Brown Hill.	July 28/61	1.2	270	-	-	1	110
		Sept. 19/62	1.8	224	-	-	4.0	570
		May 30/63	1.8	266	-	-	2.5	1,900
		Nov. 16/64	1.3	272	4	268	-	36

TABLE II

ANALYTICAL RESULTS OF PEPPERLAW BROOK SAMPLES

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Solids Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ml</u>
P-0.0	Mouth of the Pefferlaw Brook at Lake Simcoe.	Sept.19/63	1.2	252	2	250		150
P-0.8	Pefferlaw Brook at Hwy. #48.	Sept.19/63	1.3	250	2	248		450
		Oct. 20/65	1.2	252	1	251		160
P-3.8	Pefferlaw Brook at Concession 4- Georgina Twp.	Sept.19/63						120
		Oct. 20/65	1.6	268	2	266		1,320
P-8.2	Pefferlaw Brook at County Line.	Sept.19/63						160
PW-3.5	Wilfrid Creek at Pefferlaw-Wilfrid Road.	Sept.19/63						310
		Oct. 20/65	1.4	424	2	422		490
PU-7.8	Uxbridge Brook at road north of Udora.	Sept.19/63						610

TABLE III

ANALYTICAL RESULTS OF LAKE SIMCOE SAMPLES

BY THE

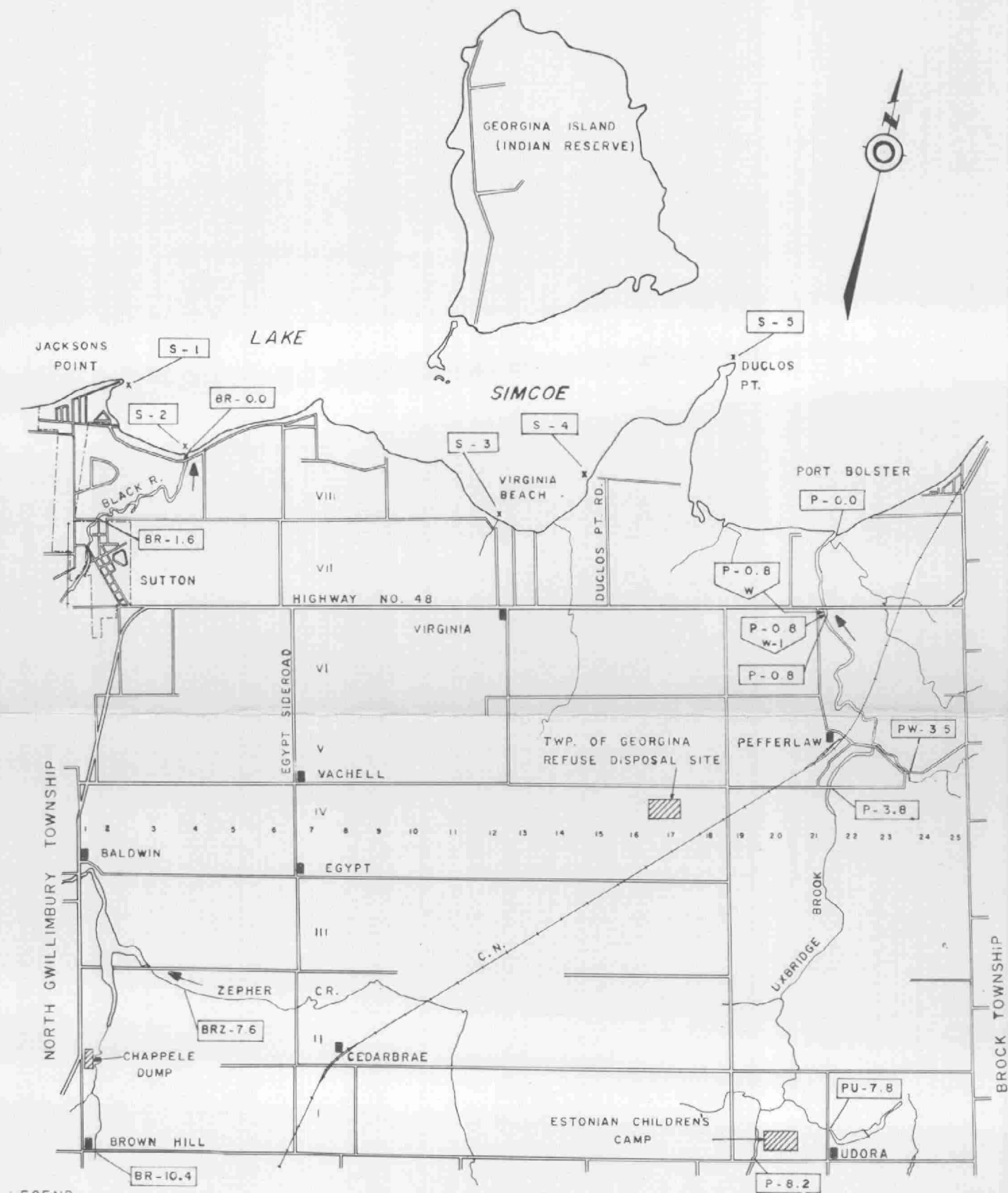
YORK COUNTY HEALTH UNIT SAMPLING POINTS

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date 1965</u>	<u>Total Coliforms</u>	<u>E.Coli</u>
S-1	Lake Simcoe at Jackson's Point Park.	July 13	93	23
		July 19	43	23
		July 27	750	23
		Aug. 5	230	0
		Aug. 12	230	230
		Aug. 16	230	230
S-2	Lake Simcoe at Mossington Park.	July 19	43	43
		July 27	43	23
		Aug. 5	230	0
		Aug. 12	4,300	2,300
S-3	Lake Simcoe at Virginia Beach.	July 19	230	23
		July 27	43	23
		Aug. 16	93	23
S-4	Lake Simcoe at Duclos Point, Beach area - (Georgina Twp.Park)	Aug. 16	430	9.1
S-5	Lake Simcoe at Duclos Point.	July 16	0	39

TABLE IV

OUTFALL LOCATIONS

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Solids Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ml</u>
P-0.8 W	20" Ø concrete storm sewer at Hwy. #48 and Pefferlaw Brook.	Oct.20/65	No Dry Weather Flow Noted.					
P-0.8 W-1	30" Ø concrete storm sewer at Hwy. #48 and Pefferlaw Brook.	Oct.20/65	No Dry Weather Flow Noted.					



LEGEND

P-0.0 - STREAM SAMPLING POINT SHOWING MILEAGE

P-0.8 - OUTFALL SHOWING STREAM AND MILEAGE

W - TYPE OF OUTFALL

W - STORM SEWER

S-1 - LAKE SAMPLING POINTS

SCOTT TOWNSHIP

ONTARIO WATER RESOURCES COMMISSION

TOWNSHIP OF GEORGINA

WATER POLLUTION SURVEY

1966

SCALE: 0 1/2 1 2 MILES

DRAWN BY: R.S.

DATE: APRIL 1966

CHECKED BY:

DRAWING NO: 66-21